UNIT I

Chapter 1 : Basics of Computer Graphics 1-1 to 1-33

Syllabus :

Image and Objects, pixels and resolution, Text mode, Graphics Mode. Basic Graphics pipeline, Bitmap and Vector based graphics, Applications of Computer Graphics,

Display Devices : Raster Scan Display, Random Scan Display, Flat Panel Display, LED-LCD Display, Plasma, Touch Screen,

Output Primitives : line, polygon, marker, text, Graphics functions and standards, Latest trends in Computer Graphics : Virtual reality, Augmented reality

UNIT II

Chapter 2 : Raster Scan Graphics 2-1 to 2-53

Syllabus :

Basic Concepts in Line Drawing : Line drawing algorithms, Digital Differential Analyzer (DDA) algorithm, Bresenham's algorithm, Circle Generating Algorithms: Symmetry of circle, Bresenham's Circle Drawing Algorithm, Polygons, Types of Polygons, Inside Outside Test, Polygon Filling : Seed fill algorithms : Flood Fill, Boundary Fill, Scan Line Algorithm, Scan Conversion, Frame Buffers, Character Generation Methods : Stroke, Starbust, Bitmap

UNIT III

Syllabus :

Two Dimensional Transformations : Translation, Scaling, Rotation, Reflection, Shearing,

Matrix Representations and Homogeneous Coordinates : Translation, Scaling, Rotation, Reflection, Shearing, Composite Transformations : Rotation About and Arbitrary Point

UNIT III

Syllabus :

Three Dimensional Transformations : Translation, Scaling, Rotation,

Types of Projections : Perspective and Parallel Projection

UNIT IV

Syllabus :

Windowing and Clipping Concepts : Window-to-Viewport Transformation,

Line Clipping : Cohen Sutherland Clipping Algorithm, Cyrus beck, Liang Barsky, Midpoint Subdivision, Polygon Clipping Sutherland-Hodgeman, Text Clipping

UNIT V

Syllabus :

Curve Generation : Arc Generation Using DDA Algorithm, Interpolation,

Types of Curves : Hilbert's Curve, Koch Curve, B-Spline, Bezier Curves

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